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Chapter 12: GEOPAK Preferences

Purpose

GEOPAK Preferences control many different aspects of GEOPAK, including how data is displayed, where data is stored, and how to handle complex procedures such as survey data and superelevation. This chapter will outline the preferences that must be set when working on CFLHD projects. This chapter will not detail every preference, as many are not consequential to CFLHD. The preferences not detailed in this chapter may be set as the user desires. Information on preferences not detailed here may be found in the GEOPAK help files.

User Preferences

User preferences may be accessed from the main GEOPAK pull-down menu, by selecting **Applications>GEOPAK ROAD>User Preferences**.

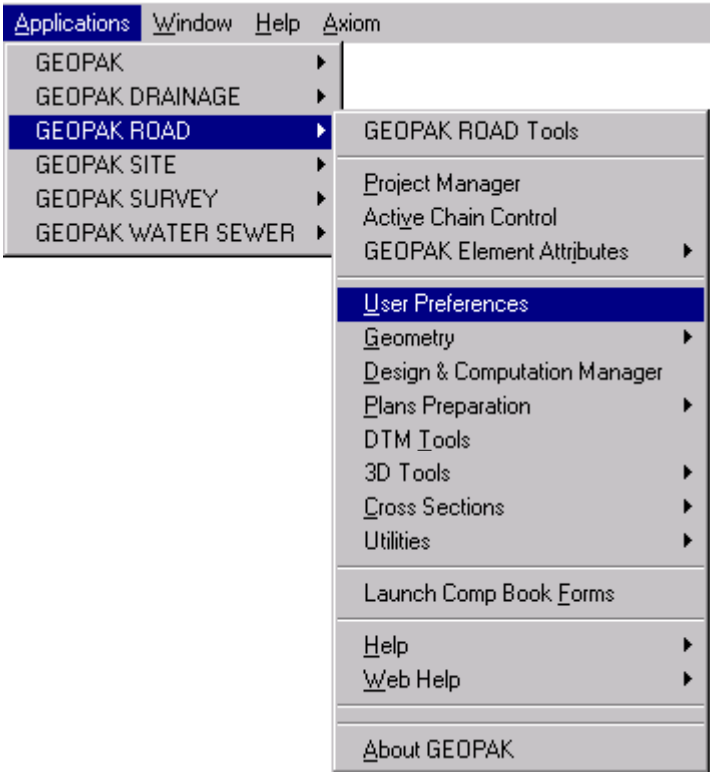

Figure 12-1: Accessing User Preferences

Once selected the User Preferences dialog will activate.

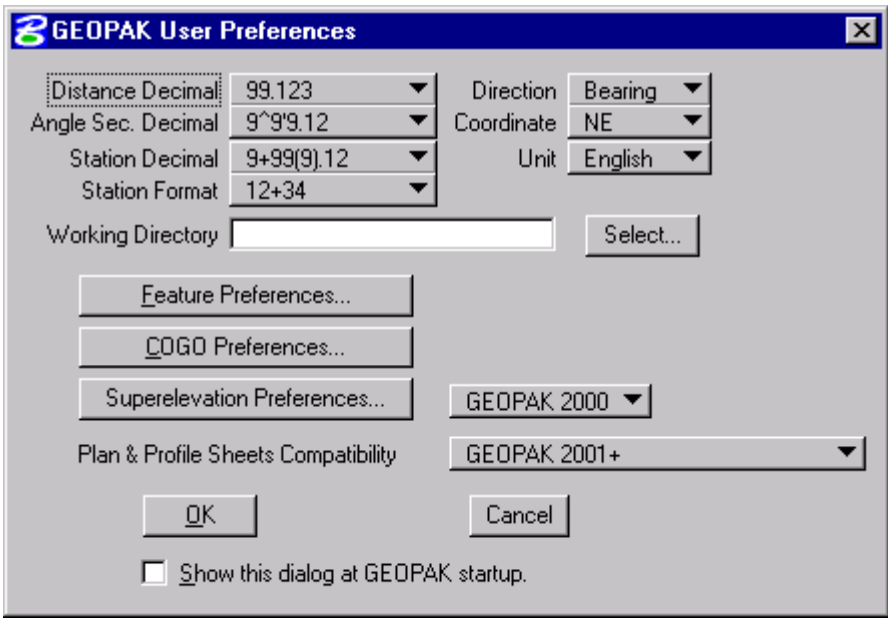

Figure 12-2: User Preferences Dialog

Generic Preferences

The preferences set in the top portion of this dialog box are utilized by many GEOPAK functions as well, including; plan view and cross section labeling, DP Station Offset, and Design and Computation Manager.

The setting of the decimal places only affects rounding of the screen output. Internally, GEOPAK still computes to double precision accuracy.

Generic preferences are set here. Project specific preferences may be set through Project Manager and will take precedence over preferences set here. See the chapter on Project Manager for more information.

The setting of the Unit option button, English or Metric, is critical to getting the correct results for GEOPAK earthwork and cross-section reports.

The following chart describes the settings to use when working on CFLHD projects.

GEOPAK User Preferences		
Preference	**Setting for CFLHD**	**Notes**
Distance Decimal	999.123 (M) 999.12 (E)	Sets the number of decimal places for most non-station and non-angle variables in the GEOPAK Labeling, and components within the Design and Computation Manager. Variables affected by the Distance Decimal parameter include point coordinates, curves parameters such as length and radius, inverse distance, elevations, etc.
Angle Sec. Decimal	9^9'9.123" (M) 9^9'9.12" (E)	Sets the number of decimal places for angle variables in Labeling and components within the Design and Computation Manager. Variables affected by the Angle Sec. Decimal parameter include curve delta and degree, bearings and inverse angles.
Station Decimal	9+99.123 (M) 9+99.12 (E)	Sets the number of decimal places for station variables in Labeling, and components within the Design and Computation Manager.
Station Format	1+234 (M) 12+34 (E)	Sets the format for station variables in Labeling, and components within the Design and Computation Manager.
Direction	Bearing	Sets the direction format for such variables as line direction in Labeling, and components within the Design and Computation Manager.
Coordinate	NE	Sets either NE (Northing/Easting) or XY coordinate values in Labeling components.
Unit	Dependent on project	Determines whether GEOPAK operates according to the English or Metric system of measurement. The Unit parameter affects every GEOPAK component.

Table 12-1: CFLHD User Preference Settings

The Working Directory option directs GEOPAK to where the .gpk file and other data files can be found. If left blank, GEOPAK will look in the directory where the MicroStation file was opened. Either the Working Directory or the COGO Job Directory should always be defined so that GEOPAK can find the **.gpk** file.

Feature Preferences

Feature preferences pertain to how survey data is interpreted by GEOPAK. Information for each element is stored in a Survey Manager Database, or **.smd** file. The **.smd** file controls how survey elements and visualized COGO elements are displayed in MicroStation. For example, the **.smd** file determines which cell will be used to represent a fire hydrant, or what level, color, weight and line style will be used to depict a fence line that was surveyed in the field. The **.smd** file also controls whether a point recorded in the field will be part of the DTM. The **.smd** file is specific to CFLHD and must be downloaded from the CFLHD web site or, onsite at CFLHD, loaded from the correct directory

on the CFLHD network. This **.smd** file only controls survey information and therefore does not need to be set once the survey mapping has been completed.

Workflow 1: Attaching the Correct .smd File

1. *From the user preference dialog, shown above, select the Feature Preferences button.*
2. *The feature preferences dialog will activate, showing the currently attached .smd file.*

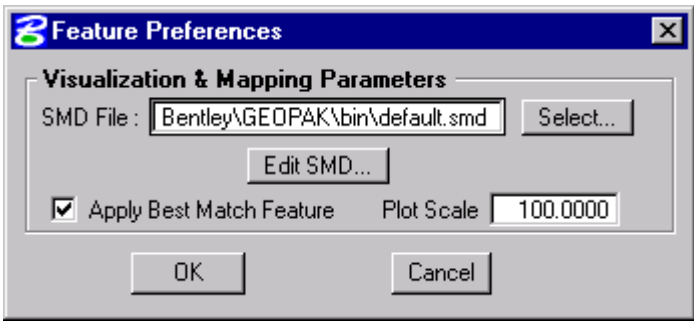

Figure 12-3: Feature Preferences

3. *The CFLHD standard .smd file is smr03kp.smd. Press the Select button and browse to the location of the CFLHD .smd file.*
4. *Check the Apply Best Match Feature box and set the Plot Scale field to 1.00*

COGO Preferences

The COGO preferences dialog box allows the user to specify the Job Open Mode, what GEOPAK will do when a new or incorrect job number is specified, setup COGO directories, and redefinition of COGO elements.

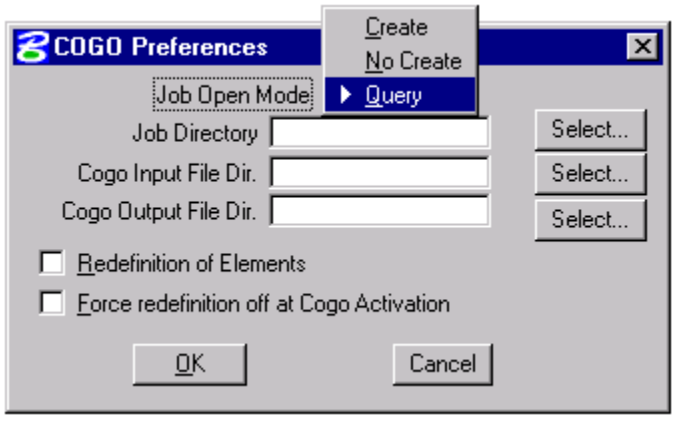

Figure 12-4: COGO Preferences

Job Open Mode

The job open mode specifies what happens when a job number is input.

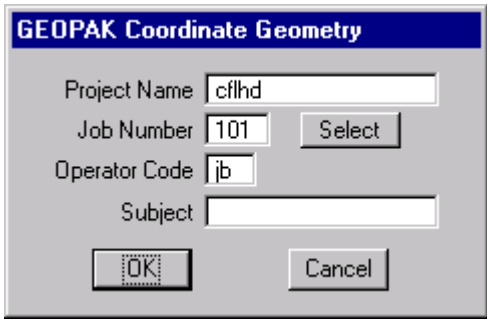

Figure 12-5: Coordinate Geometry

When coordinate geometry is accessed, a job number must be specified. This number corresponds to the file **jobXXX.gpk,** where **XXX** is the job number, shown above as 101. GEOPAK uses the following three rules to search for the specified job number:

- If the Job Directory is defined (in the COGO Preferences dialog box) then GEOPAK looks for the .gpk file exclusively in the Job Directory.
- If the Job Directory is not defined and the Working Directory is defined (in the main GEOPAK Preferences dialog box) then GEOPAK looks for the .gpk file exclusively in the Working Directory.
- If neither the Job Directory nor the Working Directory are defined then GEOPAK looks for the .gpk file exclusively in the directory that the active design file resides in.

If the .gpk file is found in the directory selected according to these rules then the job will be opened and Job Open Mode doesn't come into play. On the other hand, if the .**gpk** file is not found then the option chosen for Job Open Mode controls how GEOPAK deals with not finding the .**gpk** file as follows:

- Create: When set to Create, the job will be opened if it is found, or created if no job matching the number exists in the working directory. This option can be dangerous if an incorrect working directory has been specified. In this case, a new **.gpk** file will be created with no warning to the user.
- No Create: When set to No Create, GEOPAK will open the job, if found, or show the following dialog box if the job number is not found.

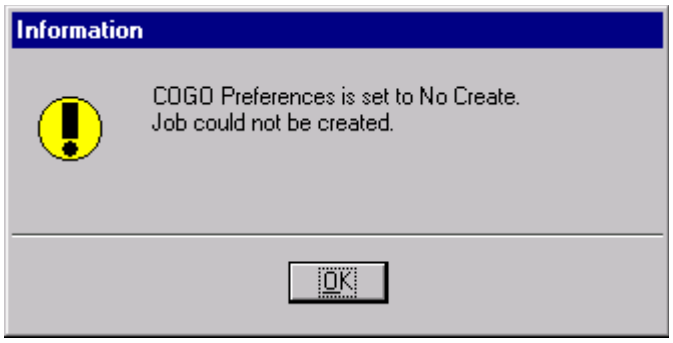

Figure 12-6: No Create Information

- Query: The Query option is the option preferred by the majority of users. If the job is found, it will be opened, if not a dialog box will open stating that the job could not be found and asking if the user would like to create the specified job in the working directory.

The job open mode **Query** is the CFLHD recommended mode.

Job Directory and Working Directory

The working directory is where GEOPAK puts all of the files created by GEOPAK and is also the first place GEOPAK will look for files when you need to open something from GEOPAK.

The job directory is an ALTERNATE directory to store the .gpk file. If this is set, any .gpk you create will be placed in that directory and any time you need to open a .gpk, GEOPAK will look in that alternate directory as well.

These two parameters work in unison, the Job Directory is supplemental to the Working directory.

Superelevation Preferences

From the GEOPAK preferences dialog, superelevation has two options: classic or GEOPAK 2000. For all CFLHD work, you must choose the GEOPAK 2000 selection, as shown below.

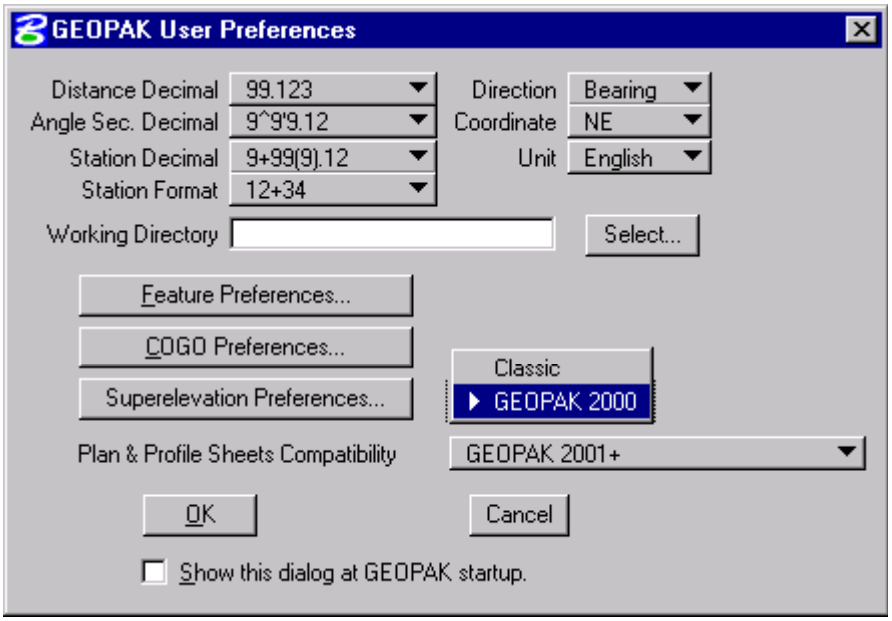

Figure 12-7: Superelevation Preference Setting

Once GEOPAK 2000 is selected press the Superelevation Preferences button, activating the GEOPAK superelevation dialog box. From this box, the user has control over all aspects of the calculation of superelevation. As a default, GEOPAK is delivered with AASHTO Method 5. For all CFLHD projects, the user must select the CFLHD superelevation file, **English_cfl.sep** or **Metric_cfl.sep**, depending on the units of the project. For internal CFLHD users, see chapter 2, Directory Structures, for the location of the superelevation files. For CFLHD consultants, download the superelevation files from the CFLHD GEOPAK standard files web page at:

http://www.cflhd.gov/cadd/standardFiles.cfm - GEOPAK

Included in the superelevation zip file are the English and Metric **.sep** files as well as files containing runoff length and radius tables, **.csv**, which are specific to CFLHD. Loading the **.sep** files will automatically attach these tables, provided they are placed in the correct directory. GEOPAK will automatically look first in the **GEOPAK\bin** directory for both the **.sep** and **.csv** files. Placing the downloaded files in this directory will ensure that GEOPAK can find these files each time. For CFLHD users the correct superelevation **.sep** and **.csv** files are located on the CADD file server and are automatically attached from there.

Workflow 2: Attaching the CFLHD .sep File

1. *From the superelevation preferences dialog box, select File>Open.*

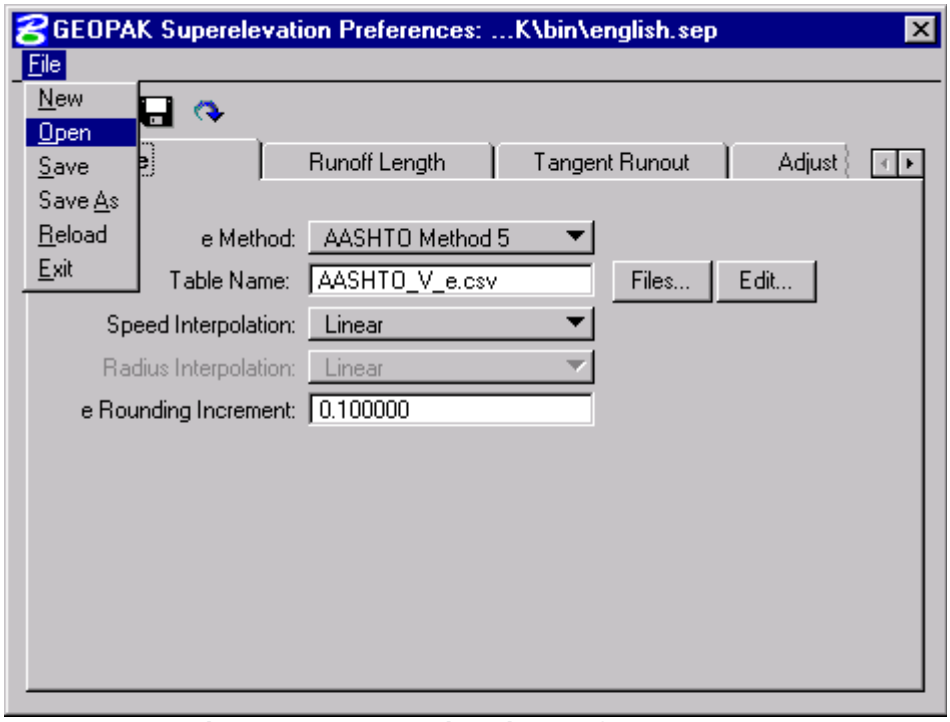

Figure 12-8: Superelevation Preferences

2. *Select the unit appropriate .sep file.*

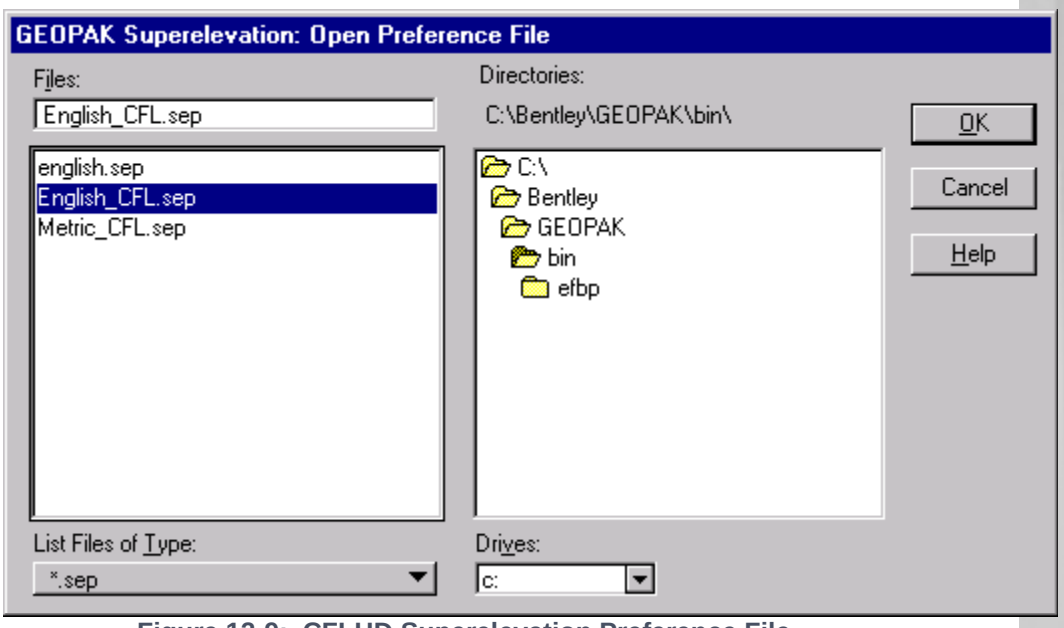

Figure 12-9: CFLHD Superelevation Preference File

3. *Once selected, the correct .sep file will be shown along the top of the dialog box, and the correct .csv file will be displayed in the Table Name portion of the dialog box shown below. No further manipulation of the superelevation preferences should take place, as the settings included with the CFLHD .sep files are required for CFLHD projects.*

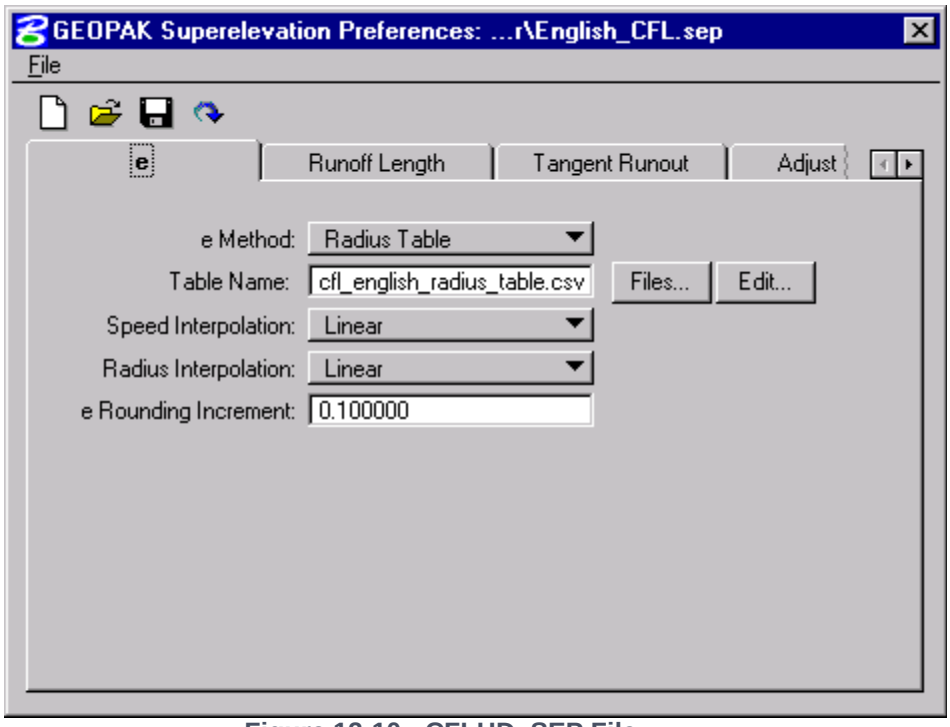

Figure 12-10: CFLHD .SEP File